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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,437	09/22/2003	Tooru Sugiyama	008312-0306031	6496

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EXAMINER

PAK, SUNG H

ART UNIT PAPER NUMBER

2874

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

5

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/665,437	SUGIYAMA ET AL.	
	Examiner	Art Unit	
	Sung H. Pak	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/22/03, 12/06/05</u> . | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

Information disclosure statements filed 9/22/2003 and 12/06/2005 have been considered.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Scifres et al (US 4,763,975).

Scifres reference discloses an optical device with limitations set forth in the claims, including: a laser unit configured to emit laser light ('11' Fig. 2); an optical member configured to convert the laser light emitted from said laser unit into parallel light rays (col. 3, ll. 4-6); an optical fiber having a core with a predetermined cross-sectional shape ('17' Fig. 2), and being provided with a fiber end portion (Fig. 2); said fiber end portion having an exterior side configured to receive the light rays from said optical member, and having an interior side being continued to the core of said optical fiber (Fig. 2); the interior side of said fiber end portion being configured to have a given shape with a first area (Fig. 2); the exterior side of said fiber end portion being configured to have substantially an elliptical shape with a second area of which amount is substantially equal to an amount of the first area of said interior side (Fig. 2;

Art Unit: 2874

abstract); the given shape at the interior side of said fiber end portion changing continuously to the elliptical shape at the exterior side of said fiber end portion (Fig. 2);

wherein said fiber end portion is obtained by pressing or crushing an end portion of the optical fiber such that a degree of the pressing or crushing along a diameter direction of the optical fiber becomes gradually greater from a position of the interior side toward a position of the exterior side (abstract, Fig. 2);

wherein said laser unit has a laser emitting region from which the laser light is emitted, and said optical member is configured such that the laser emitting region is conjugate with a shape of the exterior side of said fiber end portion (Fig. 2; col. 5, ll. 18- col. 6, ll. 8);

wherein the divergence angle of the laser unit is defined by the horizontal and vertical axes of the laser unit (col. 5, ll. 18-26), and the elliptical shape of the optical fiber end portion has complementary horizontal and vertical axes dimensions (col. 5, ll. 26-53);

further comprising a second optical fiber having a core to which a laser activating material is added, said second optical fiber having an end face for receiving the laser light passing through said optical fiber ('33' Fig. 1, or '67' in Figs. 5-7);

wherein the core size of the second optical fiber being different from that of the optical fiber (Fig. 1, Figs. 5-7);

wherein said laser unit includes plurality of laser unit members (e.g. Fig. 1), and said optical fiber includes plurality of optical fiber members having end portions configured to respectively receive light rays from said laser unit members (Fig. 1), said apparatus further comprising a second optical fiber having a core with a given cross sectional shape, and having an end face for receiving the light rays passing through said optical fiber members, the end face of

Art Unit: 2874

said second optical fiber being matched with a gathered end face of said optical fiber members from which the light rays are output (Fig. 4).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scifres et al (US 4,763,975) in view of Okazaki (US 2001/0022566 A1).

Scifres reference discloses an optical device as discussed above, except it does not explicitly teach the use of modulator for modulating the laser light and a projection unit for outputting the light toward a screen as claimed in the instant application.

Art Unit: 2874

On the other hand, the use of a modulator unit and a projection unit is well known in the art, for example, as shown by Okazaki (US 2001/0022566 A1). Okazaki explicitly teaches the use of a modulating unit for modulating the laser light (paragraph 0013), and a projection unit for outputting the light toward a screen (paragraph 0014, 0015). It would have been obvious to one of ordinary skill in the art to use the coupling arrangement of Scifres in the Okazaki's device because it advantageously provides optimal light coupling between laser light source and a transmission media with minimal loss. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the devices of Scifres and Okazaki to have all the claimed structures of the instant application.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (571) 272-2353. The examiner can normally be reached on Monday- Friday, 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571)272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2874

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Sung H. Pak  
Primary Patent Examiner  
Art Unit 2874